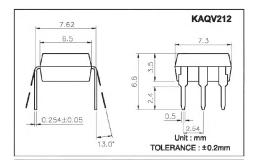
COSMO High Voltage, Solid State Relay-MOSFET Output KAQV212/212A

UL 1577/ UL 508 (File No.E108430), FI EN60950 (File No.FI13698)

Features

- 1. Normally Open, Single Pole Single Throw
- 2. Control 60VAC or DC Voltage
- 3. Switch 400mA Loads
- 4. LED control Current, 5mA
- 5. Low ON-Resistance
- 6. dv/dt, >500V/ms
- 7. Isolation Test Voltage, 3750VACrms

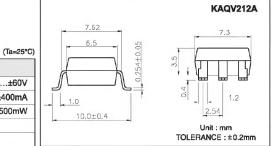


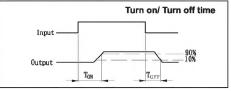
Absolute Maximum Ratings

Emitter (Input)	Detector (Output)
Reverse Voltage5.0V	Output Breakdown Voltage±60V
Continuous Forward Current50mA	Continuous Load Current±400mA
Peak Forward Current1A	Power Dissipation500mW
Power Dissipation100mW	
Derate Linearly from 25°C1.3mW/°C	
General Characteristics	
Isolation Test Voltage3750VACrms	Storage Temperature Range40°C to +125°C
Isolation Resistance	Operating Temperature Range30°C to +85°C
Vio=500V, Ta=25°C≥10 ¹⁰ Ω	Junction Temperature100°C

Soldering Temperature,

2mm from case, 10 sec





Electro-optical Characteristics

Total Power Dissipation550mW

Derate Linearly from 25°C2.5mW/°C

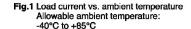
(Ta=25°C)

Parameter			Symbol	Conditions	Min.	Тур.	Max.	Unit
Emitter (Input)								
Forward Voltage		VF	IF=10mA		1.2	1.5	V	
Operation Input Current		IFON	VL =±20V, IL =100mA, t =10mS			5	mA	
Recovery Input Current		IFOFF	VL =±20V, IL≤5uA 0.2				mA	
Detector (Output)								
Output Breakdown Voltage		VB	IB=50uA	60			V	
Output Off-State Leakage		ITOFF	VT =60V, IF =0mA		0.2	1	uA	
I/O Capacitance			Ciso	IF =0, f =1MHz		8.0	pF	
ON Resistance	istance Connection	Α				0.83	2.50	
		В	Ron	IL =100mA, IF =10mA		0.44	1.25	Ω
		С				0.25	0.63	
Turn-On Time Ton		IF =10mA, VL =±20V		0.2	1.5	ms		
Turn-Off Time To		TOFF	t =10ms, IL =±100mA		0.3	1.5	ms	

Schematic and Wiring Diagrams

Туре	Schematic	Output configuration	Load	Connection	Wiring Diagrams	
			AC/DC	A	Vs	
KAQV212 &	01	1a	DC	DC B	0.3 40	
KAQV212A	03 140	Ta .	50		Vs	
			DC			

Data Curve



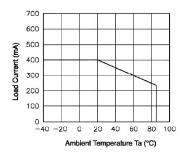


Fig.2 On resistance vs. ambient temperature Across terminals 4 and 6 pin LED current: 5mA
Continuous load current:400mA(DC)

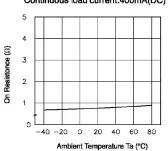


Fig.3 Turn on time vs. ambient temperature Load voltage 60V(DC) LED current: 5mA
Continuous load current:400mA(DC)

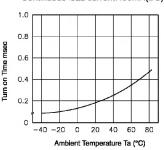


Fig.4 Turn off time vs. ambient temperature LED current: 5mA; Load voltage: 60V(DC) Continuous load current:400mA(DC)

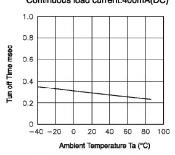


Fig.5 LED operate vs. ambient temperature Load voltage 60V(DC)
Continuous load current:400mA(DC)

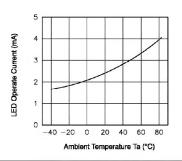


Fig.6 LED turn off current vs. ambient Load voltage 60V(DC)
Continuous load current:400mA(DC)

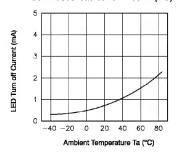


Fig.7 LED dropout voltage vs. ambient temperature LED current: 5 to 50mA

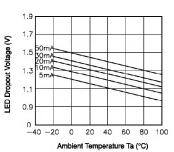


Fig.8 Voltage vs. current characteristics of output at MOS FET portion Measured portion: across terminals 4

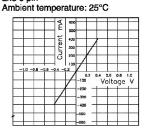


Fig.9 Off state leakage current Across terminals 4 and 6 pinAmbient temperature: 25°C

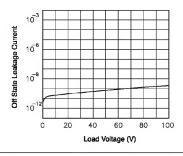


Fig.10 LED forward current vs. turn on time Across terminals 4 and 6 pin; Load voltage: 60V (DC); Continuous load current:400mA (DC);

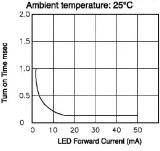


Fig.11 LED forward current vs. turn off time Across terminals 4 and 6 pin; Load voltage: 60V (DC); Continuous load current:400mA (DC);

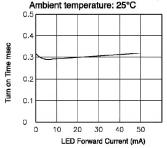


Fig.12 Applied voltage vs. output capacitance Across terminals 4 and 6 pin Frequency: 1MHz Ambient temperature: 25°C

